High Mountain Dams in Bonneville Unit,
Big Elk Lake Dam
Wasatch National Forest
5.4 miles west of Trial Lake Campground
Kamas vicinity
Summit County
Utah

HAER No. UT-41-A

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UTAH,
22-KAM.V,
1-A-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
U.S. Department of the Interior
P.O. Box 25287
Denver, Colorado 80537

HISTORIC AMERICAN ENGINEERING RECORD

High Mountain Dams in Bonneville Unit, Big Elk Lake Dam

HAER No. UT-41-A

Location:	5.4 miles west of Trial Lake Campground, Wasatch National Forest Kamas vicinity, Summit County, Utah UTM: 12.495560.4502620 Quad: Erickson Basin
Date of Construction:	1918
Builder/Designer:	Washington Irrigation Company
Present Owner:	Washington Irrigation Company
Original Use:	Dam
Present Use:	Dam
Significance:	One of the largest, deepest and most beautiful of the reservoired lakes in the Bonneville Unit, Big Elk Lake is the first Forest Service-approved reservoir in the upper Provo drainage. Its dam -- a representative medium-scale earth-fill structure -- is the only one in the drainage constructed by the Washington Irrigation Company and is the only one which is not presently under the management of the Union Reservoir Company. Although completed four years after three other dams in the Bonneville Unit -- Wall, Washington and Trial -- the Big Elk Dam was the first retention structure undertaken in the unit. As such, it is one of the most significant of the high mountain dams in the Bonneville Unit.
Inventoried by:	Clayton Fraser and James Jurale Fraserdesign Loveland, Colorado October 16, 1985

HISTORICAL INFORMATION

Big Elk Lake is the westernmost of the fifteen reservoired lakes in the Bonneville Unit of the Central Utah Project at the headwater of the Provo River. The sixth largest and second deepest, it is characterized by a shoreline of rocky escarpments dotted with timber. In October 1906, the Washington Irrigation Company was granted permission from the Uinta National Forest Reserve (Utah's first - then in existence only nine years) to construct a dam "to maintain the waters of Reservoir No. 1 (Big Elk Lake) at or above the normal level of the lake." By 1914, the company had spent $8,000 reservoiring the lake and estimated it would spend $4,000 more. Dam construction was completed in 1918. Situated picturesquely 10 feet from a precipitous rock ledge, the 300-foot-long dam was 29 feet high and 16 feet wide at its crest. It features typical earth-fill construction, with hand-placed rock riprap on its sloped faces and an outlet with an inclined headgate embedded in its center. An overflow spillway has been blasted in the stone at the dam's southern end. The proposed alterations to the dam are minor, involving replacement of the outer gate.

ARCHITECTURAL INFORMATION

Dam length:	300 feet
Dam height:	29 feet
Dam width:	16 feet
Construct:	Earth fill dam with hand-placed stone riprap facing
Lake size:	43.0 acres; 2,062 acre-foot maximum capacity; 25 vertical foot maximum drawdown
Outlet:	18"x24" concrete box with 4' freeboard; rock-faced spillway

BIOGRAPHICAL INFORMATION

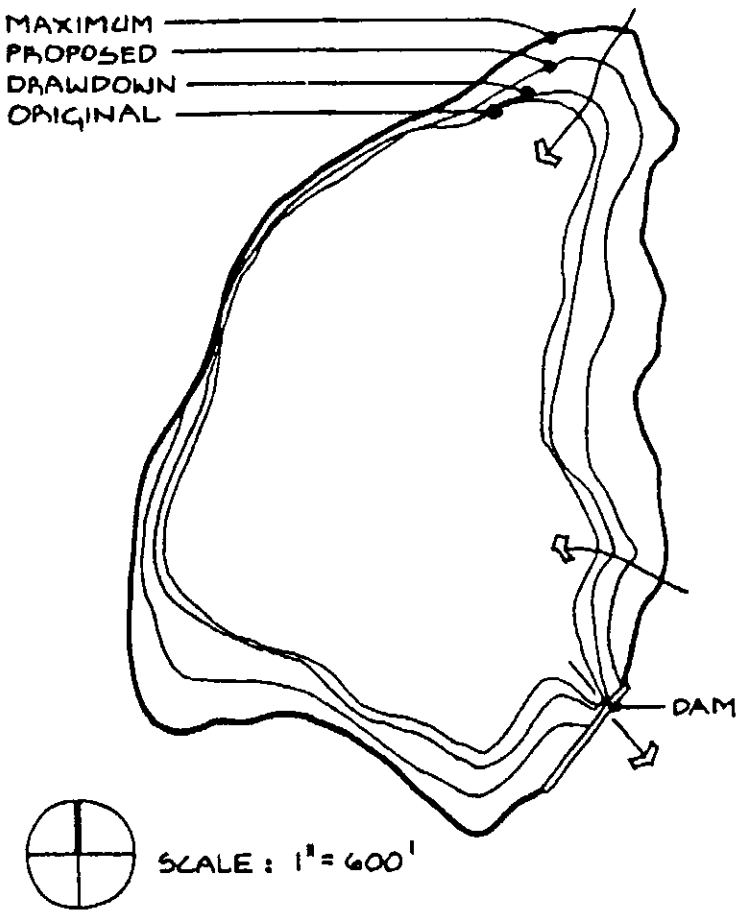
"Preliminary Engineering Report: Stabilization of High Mountain Lakes, Provo River Drainage," National Park Service Report, 1969, page 6.

Amendatory Regulations of U.S. Department of the Interior, dated April 25, 1906, Washington Irrigation Company Reservoir (Big Elk Lake) File D-3, W-CNFSO, Federal Building, Salt Lake City, Utah.

"Stipulations for Reservoir Use," Washington Irrigation Company Reservoir File, W-CNFSO, Federal Building, Salt Lake City, Utah.

Field inspection by Clayton Fraser and Robert Righter, July 24, 1985.

For additional information, see Irrigation Canals in the Uintah Basin, HAER No. UT-30.


MAXIMUM
PROPOSED
DRAWDOWN
ORIGINAL
DAM
SCALE: 1" = 600'